

Amendments to the Claims:

Following is a complete listing of the claims pending in the application, as amended:

1-39. (Cancelled)

40. (Currently Amended) A workpiece processing apparatus, comprising:
a support structure;
~~a process bowl carried by the support structure and having an inner sidewall;~~
~~a fluid cup within the process bowl, the fluid cup having an outer sidewall defining~~
~~a fluid flow region between the outer sidewall of the fluid cup and the inner~~
~~sidewall of the process bowl, an upper rim forming an overflow weir over~~
~~which a processing fluid can exit the cup enter the fluid flow region, and a~~
~~processing fluid inlet that is in fluid communication with a processing fluid~~
~~supply, wherein the fluid cup is configured so that in operation the~~
~~processing fluid rises within the fluid cup, overflows the weir, and flows~~
~~through the fluid flow region for recirculation to the processing fluid supply;~~
an electrode in the fluid cup to facilitate electrochemical processing of a
workpiece having a plating surface and a perimeter edge; and
a head assembly having a workpiece holder and ~~a rotor that rotates about an~~
~~axis and a~~ attached to the workpiece holder to rotate the workpiece
~~holder attached to the rotor,~~ the workpiece holder being configured to hold
a the workpiece in a processing plane with the plating surface facing
downward, and the workpiece holder including a plurality of ~~electrical~~
~~contacts~~ electrodes having first portions mounted to the workpiece holder
and second portions projecting from the first portions upwardly toward the
processing plane such that the second portions have tips that bear against
~~arranged to contact~~ a peripheral region of the plating surface of the
workpiece, wherein the first and second portions are spaced apart from
the peripheral edge of the workpiece such that the electrodes only contact
the plating surface of the workpiece~~the electrical contacts have a portion~~

~~inclined toward the processing plane and a tip configured to engage a microelectronic workpiece, and wherein the head assembly is moveable along a height adjustment path to place the workpiece in the processing plane.~~

41-55. (Cancelled)

56. (Currently Amended) The apparatus of claim 40 wherein the workpiece holder further comprises a support assembly configured to engaged a backside of the workpiece and position the workpiece in a substantially horizontal processing plane, ~~and wherein the contacts have a portion inclined upwardly toward the processing plane.~~

57. (Cancelled)

58. (Previously presented) The apparatus of claim 40 wherein the head moves up/down between a load/unload position and a processing position, and wherein the head holds a workpiece at least substantially horizontal in the processing plane.

59. (Previously presented) The apparatus of claim 58 wherein the head rotates in the processing plane.

60. (Previously presented) The apparatus of claim 40, further comprising a filter in the fluid cup.

61. (Previously presented) The apparatus of claim 60 wherein the filter is configured to filter out 0.1 μm particles.

62. (Previously presented) The apparatus of claim 60 wherein the filter is positioned in the cup upstream from the weir such that the fluid passes through the filter before reaching the weir.

63. (Previously presented) The apparatus of claim 60 wherein the filter is configured such that fluid passes upwardly through the filter and to the weir.

64. (Currently Amended) The apparatus of claim 40 wherein the cup has a circular cross-section having a first diameter in a horizontal plane and the apparatus further comprises a bowl ~~has with~~ a circular cross-section having a second diameter in the horizontal plane that is greater than the first diameter of the cup.

65. (Currently Amended) The apparatus of claim ~~40~~ 64 wherein the fluid flow region between the cup and the bowl is an annular space.

66. (Currently Amended) A workpiece processing apparatus, comprising:
~~an outer vessel having an inner sidewall;~~
~~an inner vessel in the outer vessel, the inner vessel having an outer sidewall defining a fluid flow region between the outer sidewall and the inner sidewall, and an upper rim defining a weir over which a processing fluid can exit the inner vessel flow into the fluid flow region, wherein the inner vessel is configured so that in operation a processing fluid rises within the inner vessel, overflows the weir, and flows downwardly through the fluid flow region for recirculation to the processing fluid supply;~~
an electrode in the inner vessel for processing a workpiece having a perimeter edge and a plating surface; and
a head assembly having a rotor that rotates about a rotor axis and a workpiece holder and a rotor attached to the rotor workpiece holder to rotate the workpiece holder, the workpiece holder being configured to hold a the workpiece with the plating surface face facing down toward the inner vessel in a substantially horizontal processing plane as the rotor rotates the workpiece holder about the rotor axis, and the workpiece holder including a plurality of electrical contacts electrodes having first portions mounted to the workpiece holder and second portions projecting from the

first portions upwardly toward the processing plane such that the second portions have tips that bear against ~~arranged to contact~~ a peripheral region of the plating surface of the workpiece, wherein the first and second portions are spaced apart from the peripheral edge of the workpiece such that the electrodes only contact the plating surface of the workpiece, and wherein the head assembly includes electrical circuitry connectable to an external power supply to transmit power through the head assembly to the electrical contacts.

67. (Currently Amended) The apparatus of claim 66 wherein the workpiece holder further comprises a support assembly configured to engaged a backside of the workpiece and position the workpiece in the processing plane, ~~and wherein the contacts have a portion inclined upwardly toward the processing plane.~~

68. (Cancelled)

69. (Previously presented) The apparatus of claim 66 wherein the head moves between a load/unload position and the processing plane.

70. (Previously presented) The apparatus of claim 66, further comprising a filter in the inner vessel.

71. (Previously presented) The apparatus of claim 70 wherein the filter is configured to filter out 0.1 μm particles.

72. (Previously presented) The apparatus of claim 70 wherein the filter is positioned in the inner vessel upstream from the weir such that the fluid passes through the filter before reaching the weir.

73. (Previously presented) The apparatus of claim 70 wherein the filter is configured such that fluid passes upwardly through the filter and to the weir.

74. (Currently Amended) The apparatus of claim 70 wherein the inner vessel has a circular cross-section having a first diameter in a horizontal plane and ~~the an~~ outer vessel ~~has~~ having a circular cross-section ~~having~~ with a second diameter in the horizontal plane that is greater than the first diameter of the inner vessel.

75. (Currently Amended) The apparatus of claim ~~40-74~~ wherein the fluid flow region between the inner vessel and the outer vessel is an annular space.